



Climate Council of Australia

Submission to: Department of Climate Change, Energy, the Environment and Water - Consultation on proposed legislative changes to incorporate an emissions reduction objective into the national energy objectives

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About the Climate Council

Climate Council is Australia's own independent, evidence-based organisation on climate science, impacts and solutions.

We connect decision-makers, the public and the media to catalyse action at scale, elevate climate stories in the news and shape the conversation on climate consequences and action, at home and abroad.

We advocate for climate policies and solutions that can rapidly drive down emissions, based on the most up-to-date climate science and information.

We do this in partnership with our incredible community: thousands of generous, passionate supporters and donors, who have backed us every step of the way since they crowd-funded our beginning as a non-profit organisation in 2013.

To find out more about the Climate Council's work, visit www.climatecouncil.org.au.

Introduction and context

Australia's journey to net zero is only beginning. Over the next eight years to 2030, we will need to get on a steep trajectory of emissions reductions, with existing efforts ramped up significantly and quickly. Climate Council welcomes the Australian Government's commitments to work towards 82% renewable electricity by 2030, and accelerate and unlock investment in renewable energy transmission infrastructure and generation projects to advance this. But more action will be needed to drive the full decarbonisation of Australia's energy system. We can, and should, drive towards an electricity grid powered 100 percent by renewables by 2030.

There is much at stake and no time to lose. The world has already warmed by around 1.2°C and Australia is suffering significant losses from climate change with worse on the way. Extreme weather events – such as bushfires, floods, heatwaves and droughts – are happening more often, and are more severe. To avoid the worst climate impacts, global emissions must halve this decade with net zero reached in the early 2040s. Australia is a wealthy country and among the worst polluting countries on a per person basis. We also have immense renewable energy resources, which means we can cut emissions faster. That is why Australia should aim to reduce our emissions by 75 per cent (below 2005 levels) by 2030, and reach net zero emissions by 2035 (Climate Council, 2021). Fully decarbonising the electricity system will play a significant role in achieving this level of emissions reduction.

Alongside the need to quickly reduce emissions, Australians are facing significant cost-of-living pressures that have been years in the making but have come to a head in the last 12 months. Wholesale electricity prices skyrocketed to all-time highs in the second quarter of 2022, with retail electricity prices following suit. Russia's war in Ukraine has driven the price of gas and oil sky-high with drivers paying more than \$2 a litre for petrol at its peak. These price rises are directly affecting the hip pocket of Australians and adding inflationary pressures to the economy, worsening the cost-of-living crisis.

Switching to renewable energy will permanently drive down power bills and keep them lower. The Australian Capital Territory is already sourcing 100% renewable electricity, and power prices in that jurisdiction *decreased* in 2022 while they were rising in all other states and territories. When the International Energy Agency analysed power prices during 2022 following Russia's illegal invasion of Ukraine, it found: "higher shares of renewables were correlated with lower electricity prices" (International Energy Agency, 2022).

We can and must tackle the climate, energy and cost-of-living crises simultaneously. By reducing Australia's reliance on fossil fuels like coal and gas in our energy system, we can cut emissions while also delivering permanently lower and more stable energy prices.

The 'Strong Electrification' pathway outlined by the Australian Energy Market Operator (AEMO) in its Integrated System Plan details how Australia can achieve almost 100 per cent renewable energy in the National Electricity Market (NEM) by 2030.

Under this pathway, the NEM would need approximately 40 gigawatts (GW) of new wind capacity and 40GW of new utility and rooftop solar capacity – tripling and doubling existing capacity of those two resources respectively this decade. Electricity consumption would grow around 40 per cent due to electrification in other sectors by 2030. By mid-century, the total generation capacity of the NEM will need to quadruple to accommodate an increase in consumption of around 133 per cent supporting electrification in buildings, industry and transport (Climate Council, 2022).

Achieving this penetration of renewables while rapidly electrifying other parts of our economy would prevent 196 million tonnes of carbon dioxide equivalent (Mt CO₂e) being released into the atmosphere by 2030 relative to AEMO's 'Step Change' scenario, which currently forms the basis of federal policy planning. These avoided emissions add up quickly over time – by 2050 Australia's electricity sector would produce half as many harmful emissions compared to the Australian Government's existing plans (480 Mt CO₂e instead of 891 Mt CO₂e).

Delivering this wholesale transformation of our electricity system calls for a major shift in infrastructure planning, investment and delivery. All levels of government, regulators and market bodies, investors and market participants need to lock in behind the shared objective of rapidly decarbonising Australia's energy systems in a way that promotes the stability and reliability of supply while making energy more affordable.

Introducing an emissions reduction objective into the national energy objectives is an essential step to provide a clear 'north star' for all stakeholders and participants in the energy ecosystem. Climate Council congratulates the Commonwealth, state and territory governments for taking this important - and well overdue - step. We call for the new objective to be implemented as soon as possible so that Australia can accelerate the planned, rapid transition to renewables which can tackle the climate crisis and cut household bills.

Recommendations

The Climate Council's recommendations are summarised below; further discussion and supporting data on each is outlined through this submission.

Recommendation 1

As part of implementing a national emissions reduction objective in the national energy objectives, Australian governments should issue a strong statement of expectations to market bodies about how this should be interpreted, to ensure appropriate priority is given to clean, affordable renewable energy and storage infrastructure.

Recommendation 2

To help drive strong emissions reduction, market bodies should be empowered to make decisions with reference to: *'at least achieving current targets for reducing Australia's greenhouse gas emissions and advancing the decarbonisation of Australia's energy system as rapidly as possible in the context of stable and reliable supply.'*

Market bodies should have the widest possible scope to consider both legislative and policy commitments, with a process being established for federal, state and territory governments to notify market bodies of a relevant target or policy that they wish to be taken into account in the application of the National Energy Laws.

Recommendation 3

To ensure that all essential forms of energy supply and storage are captured by new legislative definitions, these should be updated across the relevant legislative instruments to reflect the language of: 'consumers of energy *including energy storage*', and with 'energy' being given the definition of: 'electricity, *renewable energy storage*, gas or a combination of the three'.

Recommendation 4

To ensure market bodies and participants commence making decisions under the updated framework as soon as possible, the amended objective should take formal effect on the date of passage through the South

Australian Parliament. Its application by market bodies should be back-dated to applications and processes commencing from August 2022 when Energy Ministers announced their intention to insert this into the national energy objectives.

Market bodies should also have strong discretion to apply the new objective to processes that are underway, particularly where there is a clear case that long-term consumer outcomes would be served.

Role of the energy sector in emissions reduction

Together, electricity and stationary energy account for over half of Australia's total CO₂-equivalent emissions - producing over 260 Mt CO₂e in the 12 months to June 2022 (DCCEEW, 2022a). This is due to the ongoing dominance of coal, oil and gas in energy supply across Australian households, businesses and industrial facilities.

The electricity sector has been making positive progress in reducing emissions through increased deployment of renewables, which are primarily replacing coal as a fuel source. Encouragingly, emissions in the electricity sector peaked in 2009 and have since fallen by over 25 percent. However, emissions in the stationary energy sector have *increased* by almost the same amount - 24.8 percent (DCCEEW, 2022a). The Australian Government's national emissions projections anticipate that under a business-as-usual scenario emissions from electricity will continue to decline but still account for 79 Mt CO₂e in 2030 - around 19 percent of national emissions. Without further intervention, emissions from the stationary energy sector are projected to remain constant at 101 Mt CO₂e between 2020 and 2030 (DCCEEW, 2022b). Stronger action, delivered more rapidly, is clearly needed to drive the decarbonisation of Australia's energy system.

Australian governments have recognised this and are increasingly setting stronger targets for uptake of renewable electricity and emissions reduction. In addition to the Commonwealth's target of 82 percent renewable electricity by 2030, the Victorian and Queensland governments have also announced positive targets linked to the phase out of coal-fired power generation by the mid-2030s. Tasmania and the ACT are already powered by 100 percent renewable electricity, while the latter jurisdiction is now also working on phasing out the use of gas, as is Victoria. Delivering on these commitments will require a major shift in the types of energy infrastructure that are prioritised for investment and delivery over the remainder of this decade. Strong and consistent guidance by market bodies through regulatory decisions will be essential in sending the right signals to channel investment where it is needed now: into clean, cheap renewables like wind and solar, backed up by storage like batteries and pumped hydro.

It is also the case that Australia's energy system is entering a period of major infrastructure renewal. The coal-fired power generators that currently supply the majority of Australia's electricity are increasingly outdated. The oldest – the Liddell Power Station in the Hunter region of New South Wales – is now more than 50 years old. No matter what kind of power generation these facilities are replaced with, many of these power stations have to be replaced over the coming decade because they are not safe or efficient to run.

When renewing and replacing energy infrastructure that will serve Australians for the coming decades, it is essential that both regulators and proponents plan for a world where net zero emissions will be business as usual. The inclusion of an emissions reduction objective in the national energy objectives is therefore timely and necessary to steer this once-in-a-century transition.

Implementing an emissions reduction objective in the national energy objectives

As Federal Climate Change and Energy Minister Chris Bowen regularly points out, as of February this year, 2030 is just 83 months away. In that time, Australia needs to undertake a transformation of our energy system to a scale not seen in half a century. There is no time to waste, which is why the Climate Council calls for the emissions reduction objective to be included in the national energy objectives and implemented as soon as possible.

Industry should already be taking the need for deep emissions reduction into account when planning future energy projects, given both the clear direction set by state and territory governments through targets and policy in recent years, and the urgent global imperative of tackling climate change. The addition of an emissions reduction objective into the regulatory framework therefore should not require an extended implementation period. We encourage governments to resist anticipated industry calls for gradual or delayed implementation; Australia has already wasted a decade through federal inaction in driving this essential transformation.

In addition to urging rapid implementation of this reform, Climate Council provides the following inputs in relation to specific consultation items identified through the Department's discussion paper.

Utilising the existing economic efficiency framework

The Department has sought views on whether the emissions reduction objective should be incorporated into the national energy objectives while maintaining the existing economic efficiency framework these sit within, or considering new alternatives such as a cost effectiveness framework.

Climate Council generally agrees with the proposal to maintain and use the economic efficiency framework for two reasons. First, and most practically, shifting to any new basis - such as cost effectiveness - would likely require an extended period for both market bodies and market participants to become familiar with this and make adjustments to current practices to operationalise it. As emphasised above, Australia simply does not have any

time to waste in rebuilding our energy system to rapidly cut emissions while improving affordability and stability of supply.

Second, the economic efficiency framework requires consideration of long-term outcomes, and the balancing of costs and benefits over different temporal scales. This long-term view is essential in the context of climate change, where decisions made today will impact future generations and the maintenance of a safe, liveable climate. In applying this framework, the assessments must take account of the broader societal and ecosystem impacts of emissions changes as informed by up-to-date climate science. They should also use discount rates for future long term impacts that truly reflect inter-generational equity. If economic efficiency considerations are to be the primary context for assessment, it is important to ensure that these are not focussed on short to medium term economic impacts; current costs of capital - which generally do not reflect intergenerational long term impacts; or limited to energy system impacts only.

Further, using a current 'cost of carbon' as a proxy for such economic assessments (such as that implied by current market rates for Australian Carbon Credit Units - ACCUs) is likely to be flawed. This is because current markets rarely reflect longer term costs of abatement expected as markets respond to the need for deeper emissions cuts decades into the future. More generally, traded 'futures prices' for commodities (like ACCUs, and other commodities more generally) are heavily correlated to current and near term outlooks, and incorporate discount rates in option pricing for such futures more closely aligned to finance discount rates rather than the low discount rates more typical of intergenerational equity. The ideal assessment process would take a long term approach, which incorporates an appropriate discount rate and a realistic Social Cost of Carbon into a full Cost Benefit Analysis of alternative options to identify the most beneficial project outcomes - economically, socially and environmentally.

Approaches, which prioritise 'cost effectiveness' alone have traditionally created a bias towards short-term cost optimisation - minimising upfront costs to maximise rapid returns. Such approaches would be actively harmful at this point if they led to the life of existing fossil fuel energy infrastructure being extended or new coal, oil and gas projects being prioritised over clean renewables and storage.

In addition to ensuring that a long-term view of consumer wellbeing is embedded into the national energy objectives, it would be beneficial for governments to send a clear signal to market bodies - and through them, to industry - about how the different factors involved in assessing efficiency should be weighted. By including an emissions reduction objective in the national energy objectives, Australian governments are sending an implicit

message that zero emissions energy infrastructure should be prioritised in this next phase of development of our energy systems. This message should be made *explicit*, through a strong statement of expectations to market bodies about how the new objective should be implemented. This should clearly state that investments, which serve a long-term outcome in relation to emissions reduction together with ongoing price and supply reliability should be prioritised and supported by market bodies, even where these may initially have higher short-term costs than fossil fuel alternatives. This guidance would also serve an important parallel purpose in clearly signaling to the broader Australian community and investors that the direction of travel for the nation's energy markets is rapid, managed decarbonisation.

Recommendation 1

As part of implementing a national emissions reduction objective in the national energy objectives, Australian governments should issue a strong statement of expectations to market bodies about how this should be interpreted, to ensure appropriate priority is given to clean, affordable renewable energy and storage infrastructure.

Reference to greenhouse gas emissions reduction targets

The proposed amendments outlined by government frame the emissions reduction objective by reference to 'achieving targets for reducing Australia's greenhouse gas emissions' where the Commonwealth, or a state or territory, has made a public commitment including under a law or an international agreement or as a matter of policy. The Discussion Paper notes that this also covers other government targets that are 'likely to contribute to' reducing Australia's greenhouse gas emissions, even if they are not purposely called out as an emissions reduction target (e.g. a renewable energy target).

Climate Council endorses the proposed approach of aligning decisions by market bodies with achievement of targets for emissions reduction, and calls for this to be a mandatory consideration by market bodies. However, we encourage the use of science-aligned targets as the benchmark to work towards. As outlined in Climate Council's *Aim high, go fast* report (2021), an appropriate science-backed emissions reduction target for Australia would be to cut emissions by 75 percent on 2005 levels by 2030, and achieve net zero by 2035. We acknowledge that no Australian government has yet adopted these as formal targets, with the Commonwealth Government currently targeting a 43 percent reduction by 2030 and state and territory governments targeting a range between 30 and 75 percent.

While market bodies should be required to align decisions with achievement of these targets *at a minimum*, they should not be constrained by these targets as a de-facto cap on the amount of system transformation they will support and enable. Rather, market bodies should be empowered to make decisions with reference to: '*at least achieving current targets for reducing Australia's greenhouse gas emissions and advancing the decarbonisation of Australia's energy system as rapidly as possible in the context of stable and reliable supply.*' This would ensure that if energy transformation opportunities arise, which would see Australia make progress beyond current government targets, market bodies are not constrained in advancing these.

In deciding which targets to take into account, Climate Council also recommends that market bodies be directed to take the widest possible scope. This should capture both legislative and policy commitments - such as those outlined in zero emissions action plans and through budget initiatives at all levels of government. Further, there would be value in establishing a process whereby federal, state and territory governments can notify market bodies of a relevant target or policy that they explicitly wish to be taken into account in the application of the national energy laws. This would ensure that any and all relevant commitments towards the objective of emissions reduction are captured, and help to reduce the extent of interpretation required by market bodies regarding what is in scope.

Recommendation 2

To help drive strong emissions reduction, market bodies should be empowered to make decisions with reference to: '*at least achieving current targets for reducing Australia's greenhouse gas emissions and advancing the decarbonisation of Australia's energy system as rapidly as possible in the context of stable and reliable supply.*'

Market bodies should have the widest possible scope to consider both legislative and policy commitments, with a process being established for federal, state and territory governments to notify market bodies of a relevant target or policy that they wish to be taken into account in the application of the National Energy Laws.

Amendments to acknowledge interactions between electricity and gas markets and enable management of transition impacts

The Discussion Paper proposes a series of definitional changes to harmonise meanings across the national energy laws and ensure that market bodies

can consider the energy system holistically when making regulatory decisions. The primary change is to update definitions in both the National Electricity Law and National Gas Law to be consistent with the existing approach in the National Energy Retail Law, where 'energy' means 'electricity or gas or both'.

Climate Council supports this consolidation of language to support market bodies in considering the impacts of their decision-making across the various segments of the national energy market. However, in the long term there is a clear need to phase down and minimise the role of gas in the energy system to reduce the emissions impact of this harmful fossil fuel - as expert bodies such as the International Energy Agency have acknowledged (IEA 2022). Therefore, the regulatory system should not be built upon the assumption that supply for high demand, low frequency events - such as intense peaks in demand - will always be met by gas.

A side effect of the proposed wording as it stands may be to entrench the role of gas for peaking and long term energy storage. This risks prioritising the development of new gas fields, pipelines and generation, while hindering the implementation of more widespread rollout of new renewable generation and smart digital storage and demand management solutions. The pace of development for alternative technologies for ensuring reliability and meeting peak demand - such as grid scale batteries - has been extremely rapid. Given the recent decision by Energy Ministers to develop a Capacity Investment Scheme that is explicitly focused on renewable generation and storage, the need for gas as a peak energy source would be expected to decline significantly in coming years as this new investment comes online (Energy Ministers Meeting, 2022). It would be unfortunate if market bodies continued to enable or prioritise gas as a source of energy in times of peak demand longer than necessary simply because the national energy laws did not have a sufficiently broad definitional scope.

We therefore strongly recommend that any updated wording include reference to *energy storage* as well as electricity and gas, given the increasing role and capacity of renewable storage such as large-scale batteries and pumped hydro. This will ensure that regulatory decisions are not biased towards gas as the source of peak supply. Climate Council recommends that definitions be updated across the relevant legislative instruments to reflect the language of 'consumers of energy *including energy storage*', and with 'energy' being given the definition of: 'electricity, *renewable energy storage*, gas or a combination of the three'.

Recommendation 3

To ensure that all essential forms of energy supply and storage are captured by new legislative definitions, these should be updated across the relevant legislative instruments to reflect the language of: 'consumers of energy *including energy storage*', and with 'energy' being given the definition of: 'electricity, *renewable energy storage*, gas or a combination of the three'.

Commencement and transitional arrangements

The Draft Bill provides for commencement of these amendments on a date to be proclaimed. It has been proposed the amendments would take effect six months after passage through the South Australian Parliament. The Discussion Paper notes the following proposals for implementation:

- the amended objectives would only apply to new processes commenced after the commencement of the amendments
- decision processes under the law and rules that are underway at the time the amendments commence would be continued and finalised as if the changes to the objectives were not in place when the decision was finalised
- however, energy market bodies could be given broad discretion to apply the amended objective where they consider it is appropriate/feasible.

Climate Council recommends the amended objective instead take formal effect on the date of passage through the South Australian Parliament, with its application back-dated to applications and processes commencing from August 2022 when Energy Ministers announced their intention to insert this into the national energy objectives. Now that Australian governments have indicated their clear intention to put emissions reduction at the centre of planning for our future energy system, it is simply indefensible for market participants to pursue projects and investments, which are not consistent with this.

Market bodies should also have strong discretion to apply the new objective to processes that are underway, particularly where there is a clear case that long-term consumer outcomes would be served. In light of the urgency of action to tackle harmful climate change, it would be a highly perverse outcome if any significant new investments in fossil fuel electricity capacity

were still advanced, simply because they happened to be in train at the time of this decision.

Recommendation 4

To ensure market bodies and participants commence making decisions under the updated framework as soon as possible, the amended objective should take formal effect on the date of passage through the South Australian Parliament. Its application by market bodies should be back-dated to applications and processes commencing from August 2022 when Energy Ministers announced their intention to insert this into the national energy objectives.

Market bodies should also have strong discretion to apply the new objective to processes that are underway, particularly where there is a clear case that long-term consumer outcomes would be served.

Conclusion

The decision to insert an emissions reduction objective into the national energy objectives sends a strong signal that Australia's decade of obstruction, delay and denial on energy transformation is over. This is a very welcome shift and Australians will benefit - now and in the decades to come - from the better decisions made when governments, market bodies and energy system participants face up to the realities of the climate crisis.

The transformation of our energy system will be complex and challenging, but it is also essential if we are to have any hope of avoiding the worst impacts of harmful climate change. We call on all involved in delivering this transformation to proactively embrace the new emissions reduction objective and lean in to this once-in-a-century shift in how we power the nation.

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